BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Spectrum Policy Task Force	)	ET Docket No. 02-135
Seeks Public Comment on	)	
Issues Related to	)	
Commission's Spectrum Policies	)	
	)	

To: The Spectrum Policy Task Force

COMMENTS OF THE AMERICAN PETROLEUM INSTITUTE

THE AMERICAN PETROLEUM INSTITUTE

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EXECUTIVE SUMMARY

Our nation's petroleum and natural gas companies are authorized by the Federal Communications Commission to operate a variety of telecommunications systems that are used to provide the internal communications capabilities that are essential for their day-to-day operations, as well as for the protection of life, health and property. While these communications are critical to the day-to-day operations of these companies, they are absolutely essential their response to potentially disastrous, life-threatening emergency situations.

Spectrum allocation and assignment methods based on a traditional market-oriented approach are not generally appropriate when applied to oil and gas company licensees, as well as most other private wireless licensees. Site-by-site licensing and access to auction-exempt spectrum for these users promotes, rather than inhibits, spectrum efficiency. Moreover, due to the critical safety-related functions served by the communications systems employed by oil and gas companies, these licensees have little or no tolerance for interference to their communications – factors such as system reliability and control are essential to these companies.

API unequivocally believes that the petroleum and natural gas industries will continue for the foreseeable future to have vital needs for private communications systems. Due to the public safety concerns associated with their operations, the petroleum and natural gas industries will require new spectrum allocations to support their energy exploration, production, refining, transportation, and distribution activities. API implores the Commission to be mindful of the specialized needs of private wireless licensees when developing future spectrum policy, especially in light of the trend in current policy that favors a market-oriented philosophy.

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The American Petroleum Institute ("API"), by its attorneys, is pleased to submit these Comments to the Federal Communications Commission's ("FCC" or "Commission") Spectrum Policy Task Force in response to the Public Notice issued on June 6, 2002.[1] The Public Notice seeks comment on a broad range of policy issues, many of which are of particular importance to API's member companies inasmuch as changes to the Commission's current spectrum policies could materially affect them as significant users of private wireless systems.

I. PRELIMINARY STATEMENT

1. API is a national trade association representing approximately 400 companies involved in all phases of the petroleum and natural gas industries, including the exploration, production, refining, marketing and transportation of petroleum, petroleum products and natural

[1] Spectrum Policy Task Force Seeks Public Comment on Issues Related to Commission's Spectrum Policies, *Public Notice*, DA 02-1311 (rel. June 6, 2002) [hereinafter "Public Notice"].

gas. The API Telecommunications Committee is one of the standing committees of the organization's Information Systems Committee. The Telecommunications Committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the petroleum and natural gas industries.

2. API's Telecommunications Committee is supported and sustained by licensees that are authorized by the Commission to operate, among other telecommunications systems, facilities in the Private Land Mobile Radio services ("PLMR"). API's members utilize PLMR systems, for example, to support the search for and production of oil and natural gas, to ensure the safe pipeline transmission of natural gas, crude oil and refined petroleum products, to process and refine these energy sources and to facilitate their ultimate delivery to industrial, commercial and residential customers.

3. Many of these same licensees also utilize facilities authorized in the Private Operational-Fixed Microwave Services ("POFS"). These systems serve a variety of vital telecommunications functions, including communications with remote oil and gas exploration and production sites for voice and data applications, communications with refineries, the extension of circuits to remote pipeline pump and compressor stations, and supervisory control and data acquisition systems ("SCADA") that remotely monitor and control oil and gas wells, and pipeline operations. Multiple Address Systems ("MAS"), also authorized in the POFS to meet point-to-multipoint SCADA applications, are used extensively in the production of oil and gas from both on-shore and offshore wells, as well as in the remote operation of pipeline facilities. The oil and gas industries were among the pioneers in the development of private microwave, utilizing their systems to monitor and operate petroleum and natural gas pipelines.

4. The continued operation of the private radio systems employed by petroleum and

natural gas companies is absolutely essential to protecting lives, health and property, both in connection with the day-to-day operations of these companies, as well as during responses to emergency incidents. These systems are integral to the production and delivery of our nation's energy resources to the public. Due to the critical importance of PLMR and POFS systems to the operations of its members, API has been an active participant in all of the Commission's major rule making proceedings that have addressed the use of spectrum in the private radio services.

II. COMMENTS

5. API appreciates this opportunity to submit comments to the Spectrum Policy Task Force. The preceding paragraphs 2-4 provided a brief overview of the types of communications systems employed by oil and natural gas companies. The following comments describe how these private communications systems serve an integral function in the everyday operations of these companies, as well as support critical communications under emergency conditions, and discuss how the Commission's future spectrum policies may affect private wireless licensees.

A. It Is Well Established That There Is a Need for Private Wireless Communications Systems

6. In December 1996, the FCC's Wireless Telecommunications Bureau ("Bureau") released a White Paper that identified the unique needs of the PLMR user community.[2] As the Bureau concluded, PLMR systems serve the internal communications needs of private companies by meeting specialized requirements such as "immediate access to a radio channel (with no dialing required); coverage in areas where commercial systems cannot provide service; peak usage patterns that could overwhelm commercial systems; high reliability; priority access,

especially in emergencies; and specialized equipment required by the job or federal regulations."[3] Each of these particular requirements still exists today, and will continue to exist for the foreseeable future.

7. For oil and gas industry companies, private radio systems also provide critical safety-related functions that are essential to the protection of life, property and the environment. In addition to identifying the specialized needs of private wireless licensees, the Commission also has recognized the critical safety function served by these systems:

> in these industries [power, petroleum and railroad], radio is used as a critical tool for responding to emergencies that could impact hundreds or thousands of people. Although the primary functions of these organizations is not necessarily to provide safety services, the nature of their day-to-day operations provides little or no margin for error and in emergencies they can take on an almost quasi-public safety function. Any failure in their ability to communicate by radio could have severe consequences on the public welfare.[4]

Operational, legal and regulatory, geographical, and safety considerations all play a part in why reliable, private internal communications capabilities are absolutely essential to the operations of oil and gas companies.

8. The use of private communications systems by oil and gas companies was recently re-examined by the U.S. Department of Commerce, National Telecommunications and Information Administration ("NTIA"), which was directed by Congress to conduct a study of the

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[2] Federal Communications Commission Staff White Paper, *Private Land Mobile Radio Services: Background* (rel. Dec. 18, 1996) [hereinafter "White Paper"]. A reproduction of this White Paper is attached herewith, as Appendix A, for the convenience of the Task Force.

[3] White Paper, Executive Summary, ¶ 2.

current and future use of spectrum by energy, water and railroad industries needed to protect and maintain our Nation's critical infrastructure ("Critical Infrastructure Industries" or "CII"); the FCC is required under this statute to submit a report to Congress that addresses the needs identified in the NTIA report.[5] API submitted Comments to the NTIA in June 2001 that discuss, at length, the frequency bands currently utilized by the oil and gas industries and how these companies rely on, and will continue to have a need for, private radio facilities.[6] Subsequently, the FCC's Wireless Telecommunications Bureau requested comment on the NTIA study to assist the Commission in the development of its report to Congress, which is scheduled to be released in July 2002. API also submitted Comments in response to the Bureau's request; these comments emphasize that continued spectrum availability is essential to the operations of oil and gas companies.[7] Accordingly, API strongly urges the Task Force, and the Commission, to consider the specialized needs of private wireless licensees when developing future spectrum policy.

B. Spectrum Policy Must Vary in Different Portions of the Spectrum

9. The Task Force asks whether spectrum policy should be different in different

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[4] Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rulemaking* (FCC 00-403) ¶ 76 (2000) [hereinafter BBA R&O].

[5] See Federal Funding, Fiscal Year 2001, Pub. L. No. 106-553, 114 Stat. 2762, 2762A-73 (2000).

[6] Comments of the American Petroleum Institute, Request for Comment on Energy, Water and Railroad Service Providers' Spectrum Use Study, NTIA Docket No. 010327080-1080-01, RIN 0660-XX12, 66 Fed. Reg. 18,448 (submitted June 8, 2001). A reproduction of API's Comments to the NTIA is attached herewith, as Appendix B, for the convenience of the Task Force.

[7] Comments of the American Petroleum Institute, NTIA Report on Current and Future Spectrum Use by the Energy, Water and Railroad Industries, *Public Notice,* DA 02-361 (submitted Mar. 6, 2002). A reproduction of API's Comments is attached herewith, as Appendix C, for the convenience of the Task Force.

portions of the spectrum or in different geographic areas.[8] Technological, operational, geographical and various user-related considerations all affect use of the spectrum; some of these issues will weigh more heavily than others depending on the spectrum band. It is, therefore, unavoidable that spectrum policy must be adapted appropriately to meet different circumstances. For example, different licensees derive different benefit from their use of the spectrum - commercial wireless licensees sell communications capabilities to customers – it is their business. Private wireless users, however, use internal communications to support their primary business functions - communications is not their end product. In some circumstances, the use of private communications facilities instead of a commercial service is more cost efficient; in other instances, private systems are a necessity because no acceptable commercial alternative exists due to operational, safety-related or regulatory requirements. Whatever the underlying reasons are for an oil or gas company to employ a private system, it does not offer this communications capacity to the public for profit.[9]

i. Allocation and Assignment of Spectrum

a. Geographic Area Licensing

10. In some circumstances, a more market-oriented allocation policy could hinder the continued availability of spectrum to private wireless licensees.[10] One example is reallocating spectrum for flexible use with geographic area licensing.[11] API has commented in numerous

[8] See Public Notice, Question #3, at p. 3.

[9] Some API members do, however, share excess use of their communications systems on a not-for-profit, cost-shared basis – a spectrum use that enhances the efficient use of the spectrum licensed to that company.

[10] See Public Notice, Question #4, p. 3.

[11] See Public Notice, Question #2b, p. 2.

proceedings that geographic area licensing is simply not appropriate to meet the specific coverage needs of many private radio users, especially oil and gas companies.[12] A site-by-site licensing approach enables a private licensee to tailor its system to its individual coverage requirements, thereby making more efficient use of the spectrum.

11. It is clearly inefficient to grant wide area licenses to private spectrum users who may only need coverage in sparsely populated areas where other conventional telecommunications services are not available; it does not make sense for one licensee to control frequencies that instead could be utilized by several different parties throughout a particular geographic area. While the Commission often permits disaggregation and partitioning of licenses under a flexible allocation approach, cumbersome transaction costs, administrative burdens, and a decrease in control over their operations all inhibit a private licensee's ability to partition or disaggregate their license for use by "subtenants." In short, the use of market-based licensing schemes, such as those based on geographic areas, may be efficient and appropriate for users that intend to provide service to the public for profit; it is not generally so for oil and gas companies and other private wireless licensees.

b. Band Managers

12. When spectrum must be assigned via competitive bidding procedures, API has supported eligibility for Band Managers. As discussed, it is inefficient – often infeasible – for oil and gas companies to purchase geographic area licenses through spectrum auctions. Thus, in

[12] See e.g., Comments of the American Petroleum Institute, Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87 (submitted Aug. 2, 1999); Comments of the American Petroleum Institute, Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, WT Docket No. 02-8 (submitted Mar. 4, 2002).

certain cases, "leasing" spectrum through a Band Manager is the only likely method for an API member company to have access to spectrum in newly allocated bands where auctions are required.

13. For example, in the "Government Transfer Bands" proceeding, portions of the 8 megahertz of spectrum – intended to relieve congestion in the existing land mobile bands - were mandated for auction by Congress.[13] Due to this auction requirement, API supported Band Manager eligibility for this spectrum, in part, because oil and gas companies do not generally have the financial resources or economic incentive to compete with commercial wireless providers at spectrum auction. Access to this spectrum by private wireless users is, therefore, only likely to occur via a Band Manager.

14. The Band Manager concept, however, is relatively new and virtually untested. The Commission stated it believes that this 8 megahertz of spectrum in the 1.4 GHz band "provides sufficient spectrum to relieve much of the crowding in the existing land mobile bands."[14] Because the FCC applied a flexible allocation approach to this spectrum with open eligibility, this spectrum may be purchased by a Band Manager or by commercial providers. Even if a Band Manager does purchase some of this spectrum at auction, the effectiveness of a Band Manager scenario in these bands, and the availability of spectrum for oil and gas companies, is uncertain. In view of the foregoing, it is not clear that private wireless licensees will find "relief" in this spectrum from the congestion in the existing land mobile radio bands,

[13] See generally Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, ET Docket No. 00-221, *Report and Order*, FCC 01-382, 67 Fed. Reg. 6172 (rel. Jan. 2, 2002) [hereinafter *Report and Order*]. The Commission allocated the 1390-1392 MHz and 1392-1395 MHz/1432-1435 MHz bands for mobile and fixed operations. See id. ¶ 48.

[14] *Report and Order* ¶ 51.

and such relief is even less likely if this spectrum is purchased by commercial providers rather than a Band Manager.

c. Converting Existing Spectrum Allocations

15. Especially as it becomes more and more apparent that access to spectrum in new bands by private wireless licensees will become increasingly difficult, API adamantly objects to the Commission converting private land mobile bands to geographic area licensing and forcing site-based incumbents to relocate to other spectrum.[15] In some of the existing spectrum bands allocated for private wireless licensees, congestion from incumbent operations will render geographic area licensing infeasible in many areas because it will require the relocation thousands of incumbent systems - such a shift would not result in more efficient use of the spectrum. Site-by-site licensing is actually the more efficient approach with respect to API members and other private wireless licensees whose operational requirements do not conform to traditional geographic boundaries. Furthermore, relocation of incumbents is simply impractical given the unavailability of adequate alternative spectrum for the vast number of licensees that would be displaced, in addition to the enormous costs that would be imposed on these licensees to relocate in the name of "efficiency."

ii. Interference Protection

16. A shift in the Commission's spectrum policies based too heavily on a market-oriented approach, without consideration of the specialized needs of private wireless licensees, may preclude these users from access to spectrum, as discussed above. Such flexibility is

[15] See Public Notice, Question #2b, p. 2.

especially troublesome if it results in interference to incumbent oil and gas company systems.[16]

17. API member companies count on the reliability of their systems; their communications capabilities are vital to the safety of their operations. These licensees cannot tolerate interference to their systems. As producers and transporters of substances that are both highly flammable and potentially toxic, oil and gas companies must be confident about the reliability of the systems they employ. For example, reliable communications are absolutely necessary in petroleum refineries where the safety of personnel, the surrounding population and the environment demand clear channels of communications. Two-way communications inside a refinery are often loaded with several hundred portable and vehicular transceivers. Interference to a system employed to support refinery activities could have devastating consequences if personnel in one area of the plant cannot effectively relay critical instructions to other workers because the integrity of their communications facilities has been compromised.

18. As the above example illustrates, and as the FCC has recognized, certain private wireless licensees "routinely use PLMR frequencies for critical safety-related communications."[17] In recognizing the important safety-related functions served by these systems, the Commission has also identified a need for these facilities to be afforded enhanced interference protection;[18] the "Refarming" proceeding exemplifies such a case. To briefly summarize, in an effort to promote efficiency in the PLMR bands below 800 MHz, the Commission consolidated the former twenty separate industry-specific service pools into two

[16] See Public Notice, Question 8, p. 4.

[17] See Fifth MO&O ¶ 2.

[18] See Public Notice, Question 14, p. 4.

broad categories – Industrial/Business and Public Safety.[19] While combining the pools might enhance efficiency, the FCC was also aware that certain safety-related communications systems - such as those used in former Power, Petroleum, Railroad, and Automobile Emergency Radio Services - might be adversely affected by sharing use of the frequency assignments with new users from other service categories.[20] Accordingly, the Commission directed the frequency coordinators to develop interference standards to protect certain safety-related systems.[21]

19. In the private land mobile bands, site-by-site licensing and frequency coordination have been utilized to enhance efficient use of the spectrum and, at the same time, protect the systems employed on those frequencies. There is concern that an increased emphasis on a flexible allocation approach will make the protection of oil and gas company systems difficult to maintain.[22] It has taken tremendous efforts and cooperation among the private land mobile user organizations and frequency coordinators to achieve the current environment in those bands.[23] Under a "flexible" allocation approach intended to provide spectrum for these users, it is not

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[19] See Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Services, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 14,307, ¶ 2 (rel. Mar. 12, 1997).

[20] See Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Services, PR Docket No. 92-235, *Fifth Memorandum Opinion and Order*, FCC 00-439, ¶ 4 (rel. Dec. 29, 2000).

[21] See id. ¶ 7; See also Wireless Telecommunications Bureau Accepts and Approves Consensus Analytical Method for Determining Additional Frequency Coordination Requirements for Certain Private Land Mobile 150-470 MHz Applications, *Public Notice*, DA 02-1319 (rel. June 6, 2002).

[22] See Public Notice, Question 8, p. 4.

[23] It is also worth noting that, despite the goal of efficiency behind the actions taken in the "refarming" proceeding, there is severe congestion in these bands, and oil and gas companies are finding it more and more difficult to license new systems. As discussed, spectrum in the 1.4

likely that such cooperation will be possible. When implementing future spectrum allocations, it is essential that oil and gas companies be afforded sufficient interference protection to permit them to maintain the reliability of their safety-related communications systems.

iii. Critical Infrastructure Industry and Safety-Related Systems

20. Moreover, system reliability is of such importance to Critical Infrastructure Industry licensees that API, and others, have strongly advocated an exclusive spectrum allocation for these entities (such as pipeline operators, petroleum companies, electric utilities and railroads). The transition to a market-oriented approach favors auctions over other types of allocation methods; again, this is not an appropriate mechanism for private wireless licensees, especially CII users. In the Balanced Budget Act of 1997, Congress directed the FCC to use competitive bidding to resolve mutually exclusive initial applications for licenses; however, it provided that "public safety radio services," are exempt from this auction requirement.[24] The FCC has interpreted this reservation to mean that spectrum will be exempt from auction under this statutory exception only if the dominant use of the spectrum is by auction-exempt entities that "(1) have infrastructure that they use primarily for the purpose of providing essential public services to the public at large; and (2) need, as a part of their regular mission, reliable and available communications in order to prevent or respond to a disaster or crisis affecting the public at large."[25] As the FCC noted, Congress has specifically identified the CII entities as those industries that should be included in the "public safety radio services" because of their

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GHz is intended to relieve congestion in the refarmed bands, however, it is very uncertain at this time that oil and gas companies will find relief in that spectrum.

[24] See 47 C.F.R. §§ 309(j)(1) and (2).

[25] See BBA R&O ¶ 77.

critical public safety functions.[26] The Commission has determined that the scope of this public safety exemption will apply only to a spectrum band as a whole, not to individual applicants.

21. Auctions significantly limit access to spectrum by the oil and gas industries, and the CII as a whole, for private internal systems. Future allocations will do little to ease the spectrum shortage facing oil and gas companies and other energy providers unless the FCC is able to make both new and existing spectrum bands available to the CII entities. By using the FCC's current approach, it is possible that not a single frequency band or portion thereof would be set aside for "public safety radio services" – which could have potentially devastating consequences to human life, health and the natural environment. API has advocated, at a minimum, allocating some number of channels or frequencies to "public safety radio services" in the existing bands relied upon by auction-exempt entities and in new spectrum bands for which it is determined that they have a need. It should again be underscored that commercial services are not an adequate substitute for the private, internal facilities operated by CII entities, and it is essential that they have the capabilities to operate these vitally important communications systems.

III. CONCLUSION

22. Our nation's petroleum and natural gas companies are authorized to operate a variety of private telecommunications systems; systems that are used to provide internal communications capabilities crucial to protecting lives, health and property. The private communications systems utilized by oil and natural gas industry companies are essential to meeting safety, operational, environmental and regulatory compliance obligations. Congestion in radio spectrum bands currently allocated for private systems threatens the reliability of the

[26] See H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess., at 572.

communications capabilities of these entities. A transition to a market-oriented approach favoring policies such as geographic area licensing and auctions would not address the specialized needs of these entities.

23. At a minimum, current allocations should be preserved. Additionally, an exclusive allocation of channels for critical infrastructure industries would contribute immeasurably to alleviating the problems caused by congestion and facilitate adequate access to radio spectrum for vitally important private communications systems. While oil and gas companies employ commercial services as a component of their overall communications networks, commercial services are often inadequate as a substitute for the private systems they employ.

24. API unequivocally believes that the petroleum and natural gas industries will continue to have requirements for private communications systems. As components of the Critical Infrastructure Industries, with public safety concerns related to their operations, the oil and natural gas industries require new spectrum allocations to support their energy exploration, production, refining, transportation and distribution activities; the Spectrum Policy Task Force should consider spectrum policies that support private wireless licensees.

WHEREFORE, THE PREMISES CONSIDERED, the American Petroleum Institute respectfully submits the foregoing Comments and urges the Spectrum Policy Task Force and the Federal Communications Commission to act in a manner consistent with the views expressed herein.

Respectfully submitted,

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